

Department of Planning and Environment

Non-urban water metering in NSW

What water users need to
know

January 2023

Find out more:

www.dpie.nsw.gov.au

Title: Non-urban water metering in NSW

Subtitle: What water users need to know

First published: April 2021

Department reference number: PUB20/754

© State of New South Wales through Department of Planning and Environment 2023. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Planning and Environment as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

Disclaimer:

The information contained in this publication is based on knowledge and understanding at the time of writing (January 2023) and may not be accurate, current or complete. The State of New South Wales (including the NSW Department of Planning and Environment), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

Contents

Introduction	4
.....	
Metering objectives	4
Regional rollout dates	4
An overview of the new metering requirements	5
.....	
Do the rules apply to me?	5
What you need to know	5
Complying with the new rules	5
Rollout dates	5
Rules to comply with now	6
Do the rules apply to me?	7
Exemptions from the metering rules	8
Summary of the metering rules	9
Enforcing the metering rules	9
Steps you need to take to comply by your rollout date	10
.....	
Metering equipment	10
New and replacement meters must be pattern-approved	10
Existing meters	10
What meter do I need?	11
Tamper-evident seals	12
Submitting documentation to show compliance	12
Telemetry	13
What happens if my telemetry stops working?	13
What you need to do on an ongoing basis	14
.....	
Recording and reporting	14
Water users will be notified of their new conditions	16
Maintenance requirements	16
Faulty metering equipment	16
Ongoing validation	16
How the new rules apply to you	17
.....	
More information	18
.....	

Introduction

In December 2018, the NSW Government introduced a new non-urban water metering framework to ensure robust and fair water management across the state.

Development of the framework was a key commitment of the NSW Government's 2017 Water Reform Action Plan and the Murray–Darling Basin Compact. It was informed by extensive public consultation with water users and the metering industry.

The framework will result in real and positive change to the management of NSW's precious water.

It will significantly improve the standard and coverage of non-urban water meters in NSW by providing water users with clear guidance on metering requirements.

It is being rolled out in stages until December 2024 to ensure all water users have enough time to comply with the new rules.

Once fully implemented, the metering rules will replace any metering or measuring requirements in water sharing plans. This means there will be a consistent and streamlined metering framework across NSW, rather than separate requirements for separate water sharing plan areas.

Metering objectives

- Vast majority of water take is accurately metered
- Meters are accurate, tamper-proof and auditable
- Undue costs on smaller water users are minimised
- Metering requirements are practical.

Regional rollout dates



***The following groundwater sources are included in the 1 December 2021 regional rollout date:**

- NSW Great Artesian Basin Groundwater Sources
- Northern Western Unregulated and Fractured Rock Water Sources
- NSW Great Artesian Basin Shallow Groundwater Sources
- NSW Murray–Darling Basin Fractured Rock Groundwater Sources
- NSW Murray–Darling Basin Porous Rock Groundwater Sources

An overview of the new metering requirements

Do the rules apply to me?

The ready reckoner on page 14 is a guide to understand if the rules apply to you. You can also use the government's [online metering guidance tool](#). You need to comply with the new rules if you:

- already need to meter under your authority conditions
- meet the infrastructure size thresholds
- take water from high-risk groundwater sources.

What you need to know

The new water metering rules are being rolled out in stages, to be fully implemented by December 2024. Metering requirements only apply to approvals or water access licences that meet the metering thresholds.

Complying with the new rules

About a year before each rollout date, you will receive a letter so that you:

- understand what the rules are
- have time to comply by your rollout date
- can check if your infrastructure is correct
- can apply for your works to be tagged as inactive if relevant
- can contact a duly qualified person (DQP) to discuss requirements.

Your responsibilities include:

- ensuring the right metering equipment is installed for your particular water-take activities
- ensuring the equipment is accurate, correctly installed and validated
- reporting your water take
- meeting the rollout date that applies to your pump size or the area of NSW in which you are located.

You are expected to make arrangements well ahead of your rollout date to bring your equipment into compliance and be able to demonstrate you have made every effort to comply with the metering rules.

You can also use the government's [online metering guidance tool](#) to check if and when the rules apply to you. Just answer a few questions about your work and the tool will guide you.

Rollout dates

Figure 1 outlines what equipment is required and by when you need to comply with the new non-urban water metering requirements.

Different rollout dates will apply to you depending on your pump size or the area of NSW in which you are located. As of 1 December 2020 all surface water pumps 500 mm and above, across NSW, are required to meet the new requirements. The regional rollout dates are based on water sharing plan areas and staged to give you enough notice to ensure your equipment is compliant:

- 1 December 2021 for northern inland
- 1 June 2023 for southern inland
- 1 December 2024 for coastal.

Check the size of your work on your works approval. If you do not have the size of your work recorded on your approval, you will need to install a compliant meter by the relevant regional rollout date.

Rules to comply with now

If the rules apply to you, there are new rules that came into effect on 1 April 2019:

- all new and replacement meters installed on works must be pattern-approved, have a local intelligence device (LID) and tamper-evident seals
- you can apply to tag your work as inactive
- you must use a new process to report when your metering equipment is faulty (refer to page 10).

Until the new metering rules come into effect, you need to continue to comply with any existing metering conditions on your works approval or water access licence.

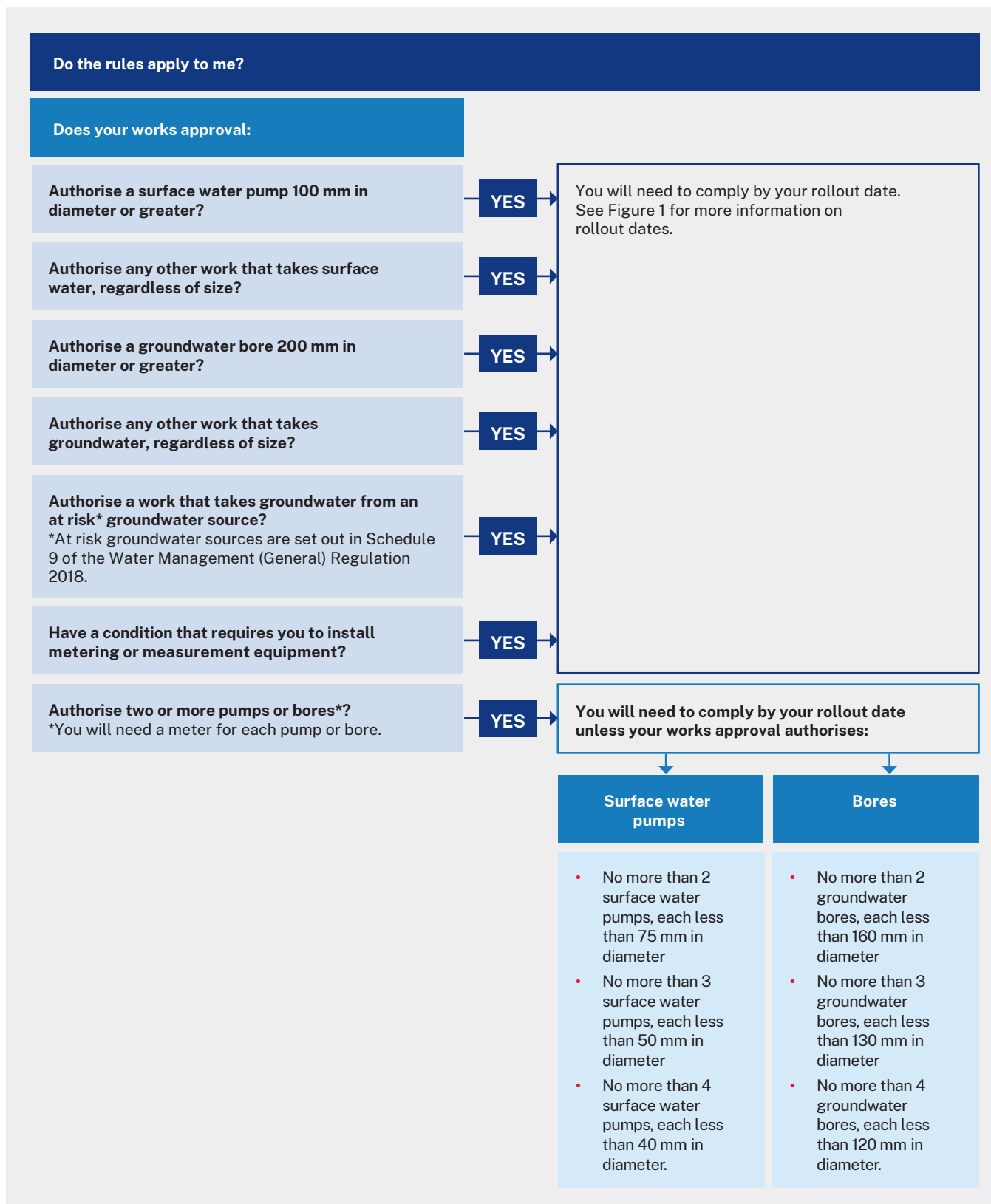
It is important that you are familiar with the existing conditions of your works approval and water access licence.

When the new metering rules come into effect, they will replace any existing metering conditions on your works approval or water access licence.

The new metering rules come into effect on the relevant rollout date, or when you install a new or replacement meter under an existing metering condition, whichever occurs earlier.



Do the rules apply to me?



Exemptions from the metering rules

Inactive works are exempt from the metering rules.

If you have a work, but do not regularly use it to take water, you should consider applying to have the work tagged as inactive. Works tagged as inactive on the water supply work approval are exempt from the metering rules.

To apply to tag a work as inactive, you will need to demonstrate that the work cannot take water.

If you decide to use your work, you will need to apply to remove this tag and you will need to demonstrate that your work complies with the metering rules.

For more information about tagging your work as inactive go to www.waternsw.com.au/amendapproval.

Other exemptions include:

- works solely used to take water under basic landholder rights
- works that do not meet size thresholds and are not otherwise captured by the rules
- water take that is exempt from the requirement for a water access licence
- water solely taken under a floodplain harvesting access licence
- where the Minister is satisfied that it is not possible for water taken using the work to be measured by metering equipment
- works that are not nominated by an access licence
- small, low-risk works used solely to take water under a stock and domestic water access licence. Note: this exemption lapses on 1 December 2024.



Summary of the metering rules

Where is your work taking water from?	What type of work?	What is required?	When must you comply?
Surface water	Pump 500 mm & above 200–499 mm 100–199 mm < 100 mm	Compliant meter, local intelligence device (LID) and telemetry	1 December 2020: surface water pumps 500 mm and above – all regions 1 December 2021: remaining works that require a meter – northern inland region 1 June 2023: remaining works that require a meter – southern inland region 1 December 2024: remaining works that require a meter – coastal region
		Compliant meter and LID	
		Check multiple pumps requirements	
		Compliant meter, LID and telemetry	
Other works, including pumps/bores that are already required to have a meter			
At-risk groundwater sources At-risk groundwater sources are listed in Attachment B of the NSW Non-Urban Water Metering Policy	All works	Compliant meter and LID	(see map of regional rollout dates and Attachment D of the NSW Non-Urban Water Metering Policy for more information)
Groundwater	Bores 200 mm & above < 200 mm	Compliant meter and LID	
		Check multiple bores requirements	
		Compliant meter and LID	
		Compliant meter and LID	
Other works, including pumps/bores that are already required to have a meter			

Figure 1
Summary of the metering rules

Enforcing the metering rules

NRAR is responsible for compliance with and enforcement of the new water metering rules. NRAR's investigators and compliance officers travel all over the state's water sharing plan areas inspecting properties and assessing compliance, which applies to all water users and DQPs.

NRAR applies a graduated and proportionate response to situations where licence or approval holders are not compliant with regulatory requirements. NRAR's

approach to enforcement and prosecution is set out in its Regulatory Policy and Prosecution Guidelines. NRAR will exercise regulatory discretion in situations where a licence or approval holder cannot strictly comply with new regulatory requirements for metering because of issues that are beyond their control.

Breaches of water law may result in enforcement action, including prosecution, where appropriate.

NRAR has published its [compliance approach](#) for the new metering regulations, including how it will treat instances of non-compliance. The compliance approach considers situations where water users cannot strictly comply with the rules because of issues that are beyond their control.

Steps you need to take to comply by your rollout date

Metering equipment

New and replacement meters must be pattern-approved

All new and replacement meters installed on works that meet the metering rules must be pattern-approved, installed by a DQP in accordance with Australian Standard 4747, have a local intelligence device (LID) and tamper-evident seals.

The pattern-approval process provides the greatest level of confidence that meters are accurate and fit for purpose.

National Measurement Institute of Australia is responsible for assessing meters against national standards and granting pattern approval. Each pattern-approved meter is issued with a certificate of pattern approval.

The Murray–Darling Basin Authority has published a list of pattern-approved, non-urban water meters. This list is updated from time to time.

Existing meters

If you want to keep your existing meter, you need to make sure it is accurate.

This does not necessarily mean it will be a pattern-approved meter. However, if you cannot demonstrate your existing meter is accurate then it will need to be replaced with a pattern-approved meter by your relevant rollout date.

Figure 2 describes the process that will help you understand the transitional arrangements for existing metering equipment and when metering equipment requires an accuracy test.

Water metering equipment must be installed and validated by a duly qualified person (DQP)

A DQP is someone with the qualifications, skills and experience to carry out certain work in relation to metering equipment.

Their role is to ensure your metering equipment is installed and operating properly. They can also advise you on how to comply with the new metering requirements and what equipment is right for you.

You must use a DQP to carry out certain activities in relation to your metering equipment. This includes installation, some maintenance, validation and checking the accuracy of your meter.

The list of required qualifications and skills for DQPs is available in Attachment E of the [NSW Non-Urban Water Metering Policy](#).

To find a certified meter installer in your region visit [Irrigation Australia](#).

To find a certified practising hydrographer visit [Australian Hydrographer Association](#).

What meter do I need?

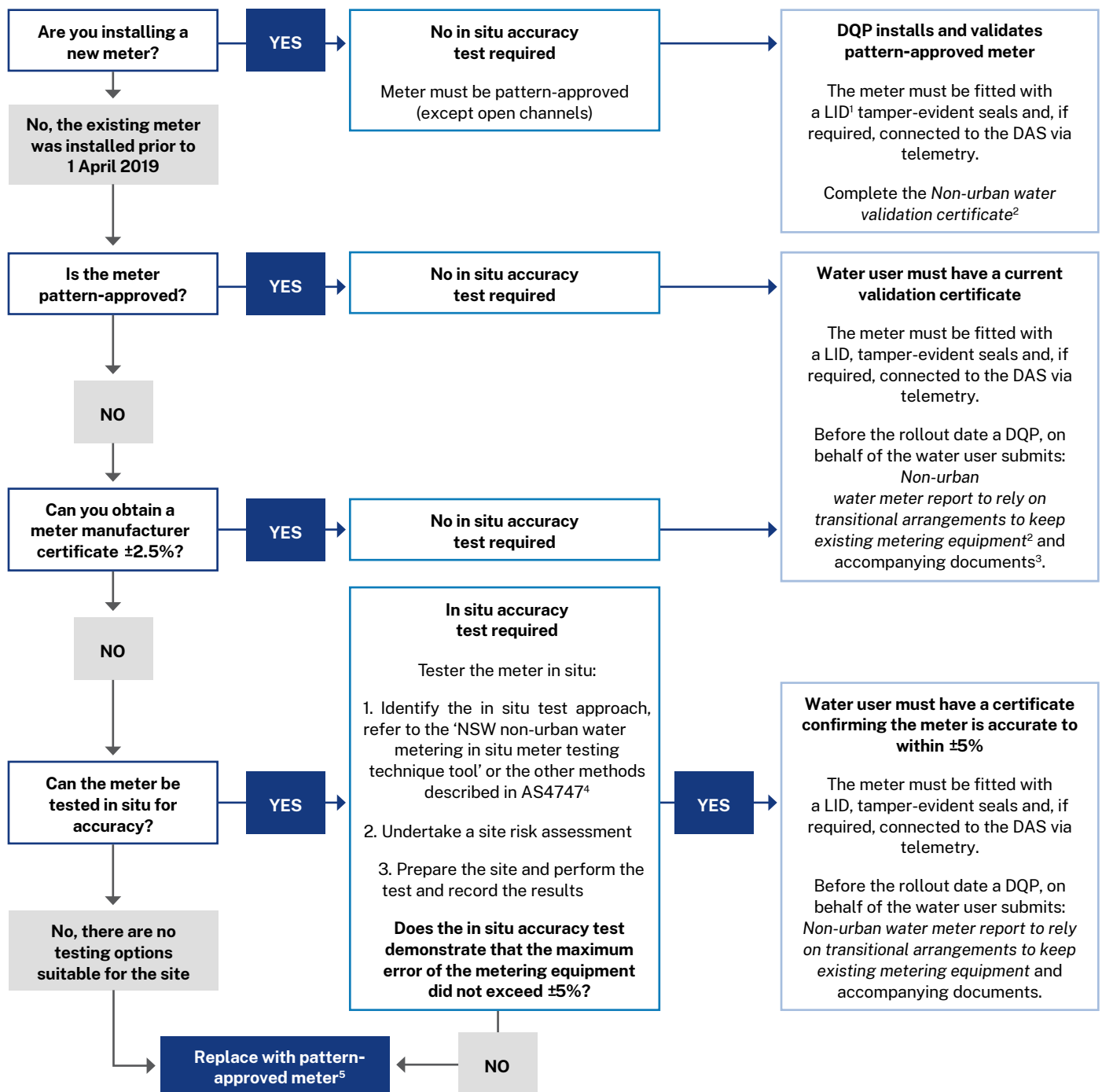


Figure 2
What meter do I need?

1. LID – Local intelligence device. A combined data logger and telemetry unit that complies with the Data Logging and Telemetry Specifications 2020. A list of devices that have been tested by the department is published on its [non-urban metering website](#).

2. DQPs via the DQP portal can generate or submit certificates, including the validation certificate, and the report to rely on transitional arrangements to keep existing metering equipment on behalf of the water user. The certificate/report will be emailed to the DQP and water user automatically if entered in the DQP Portal. DQPs must submit the certificate/report to the DQP Portal or provide to the water user within seven days of carrying out the activity.

3. Accompanying documents are a:

- meter manufacturer's certificate of accuracy confirming the meter was within 2.5% accuracy after manufacture and a validation certificate OR
- certificate of accuracy for existing meters (non-pattern-approved) from a duly qualified person confirming the meter is accurate to within 5%.

4. AS4747 – Australian Standard AS 4747, 2013, Meters for non-urban water supply

5. DQPs may also discuss other options with water users, such as site modifications or meter replacement to achieve compliance.

Note: an accuracy check by a DQP must be done every five years (or every 12 months for open channels), and whenever maintenance affects the metrology of the meter. A new certificate of accuracy completed by a DQP needs to be submitted each time this occurs.

Tamper-evident seals

All metering equipment must have tamper-evident seals to show whether the equipment has been interfered with. This includes the meter itself, ancillary wiring, pipework, telemetry equipment or apparatus and any supporting structure.

The NSW Government has appointed Irrigation Australia Limited (IAL) as the approved provider of all tamper-evident seals.

Only current DQPs can purchase seals via IAL and only DQPs, NRAR officers and an authorised officer of WaterNSW may install or break a tamper-evident seal.



Figure 3
Example of an installed tamper-evident seal

Submitting documentation to show compliance by your rollout date

The forms and certificates required vary, depending on whether you:

- are installing a new or replacement meter
- are installing a new open channel meter
- wish to keep an existing meter that was installed before 1 April 2019.

You, and/or your DQP, will need to complete forms and certificates, and submit them to WaterNSW via the DQP Portal to demonstrate compliance with the metering rules. Your DQP will be able to advise and complete most of this work on your behalf.

The [DQP Portal](#) is a secure website that can be used on a computer, laptop, tablet, or smartphone.

The DQP portal will be used to:

- submit the validation certificate to notify the water user that the meter installation is compliant
- submit a certificate of compliance for new open channel metering equipment installed after 1 April 2019
- generate a compliance report for an existing meter that is being kept under transitional arrangements.

You must also keep completed forms for at least five years.

Telemetry

All surface water works – except pumps less than 200 mm – must have compliant local intelligence devices (LIDs) installed and be connected to the government's data acquisition service by the relevant rollout date.

All other metered surface water and groundwater works must have compatible LIDs installed by the regional rollout date. LIDs for these works do not need to be connected to the government's data acquisition service.

The department has encouraged data logger and telemetry manufacturers to develop LIDs that meet government specifications.

A list of compatible LIDs that comply with the NSW Government's specifications is available on the [telemetry page of the department's website](#).

Even if you are not required to have telemetry, you may want to consider voluntarily installing such equipment and have it connected to the data acquisition service. This will avoid the need for some manual recording and reporting.

A DQP must install and register your LID. They will also be able to advise you on suitable LIDs, and provide you with a SIM card.

You are responsible for the costs of buying, installing and maintaining all metering equipment, including telemetry. Telemetry equipment includes the compatible telemetry device as well as a SIM card and monthly telemetry subscription.

What happens if my telemetry stops working?

The telemetry system is designed so that it notifies you by email when your telemetry stops working.

If you become aware your telemetry equipment is not working properly or has stopped working, you need to report it within 24 hours to WaterNSW using the online Section 91i form, available from the WaterNSW website, www.waternsw.com.au/s91i.



Figure 4 Example of an LID

What is telemetry?

A cornerstone of NSW's non-urban water metering framework is the use of telemetry to securely transmit data about water extraction from a meter to government and to water users.

This data will enable the Natural Resources Access Regulator, WaterNSW and the department to undertake compliance, enforcement, billing and other water management activities.

Water users will also be able to access this data via a private online dashboard and will receive notifications when their equipment is not operating properly.

What you need to do on an ongoing basis

Recording and reporting

You need to record and report on your water take and other information from your relevant rollout date.

Although meters with telemetry will automatically report water take data, some information about what the water was used for and confirmation that it is being taken legally will need to be recorded and kept for five years, for auditing purposes. You also need to keep your old logbooks for five years.

You also need to provide access to WaterNSW staff every year so they can download the LID data if the meter is not connected to telemetry.

Table 1 outlines what you need to record and report, and how often – which differs depending on the type of metering equipment you are required to have under the new rules.

Voluntarily installing telemetry has the benefit of reducing your recording obligations.

All reporting should be entered via WaterNSW's water accounting system, [iWAS](#).

Table 1
Summary of recording and reporting requirements

	Record within 24 hours	Report before 28 July every year	Report within 14 days after the end of each month
Works not required to meter	<ul style="list-style-type: none"> Licensed water take Water take under BLR or licence exemption* Water taken according to conditions 	<ul style="list-style-type: none"> Licensed water take Water take under BLR or licence exemption* 	Not required
Works required to meter – but without telemetry	<ul style="list-style-type: none"> Water take under BLR or licence exemption* Water taken according to conditions <p>Licensed water take is automatically reported by LID</p>	Not required	<ul style="list-style-type: none"> Meter read Water take under BLR or licence exemption* <p>WaterNSW downloads LID data annually</p>
Works required to meter with telemetry	<ul style="list-style-type: none"> Water take under BLR or licence exemption* Water taken according to conditions <p>Licensed water take is automatically recorded by LID</p>	Not required	<ul style="list-style-type: none"> Water take under BLR or licence exemption* <p>Licensed water take is automatically recorded by LID</p>

*BLR – basic landholder rights. Only if the work is used to take both licensed water and under BLR or other licence exemption.

Metered water users who need to report water take will need to do so even if they do not take water. However, these water users will **not need** to report for a period of up to six months if they take the following steps:

- At least 14 days before that period begins, they notify WaterNSW to confirm that they do not intend to take water for that period.
- Within 14 days after that period ends, they notify WaterNSW to confirm that they did not actually take water in that period.

This will not prevent a water user from taking water during this period. However, if a water user takes water during this period, they will revert to monthly reporting requirements.



Water users will be notified of their new conditions

New conditions for metering equipment and recording and reporting water take will be applied on your approvals, or on access licences where approvals are exempt.

The new conditions will replace those previously giving effect to the water sharing plans rules.

Closer to the relevant rollout date, you will be notified of the conditions that apply to you.

More information will also be provided on the [WaterNSW website](#).

Maintenance requirements

Under the new rules, you can perform some maintenance activities, while others must be undertaken by a DQP. The [Maintenance Specifications 2019](#) sets out the maintenance requirements for metering equipment, including frequency and who can perform maintenance. These requirements apply to new or replacement meters installed from 1 April 2019, and all meters from the relevant rollout date.

Faulty metering equipment

If your metering equipment is not working properly or has stopped working, you must notify WaterNSW within 24 hours of becoming aware, using the online reporting form, even if you are not taking water.

You must arrange for the metering equipment to be repaired or replaced within 21 days, or request an extension.

You must keep records while the metering equipment is being repaired.

Once your equipment is repaired/replaced, you will need to submit all relevant documentation within 28 days, including water take data and validation certificate.

Ongoing validation

Ongoing validation of your metering equipment is required. Validations are undertaken by a DQP every five years, or every 12 months for open channels, and in any other circumstances in which metering equipment is required by AS4747 to be validated (for example, when maintenance work affects the metrology of the meter).



How the new rules apply to you

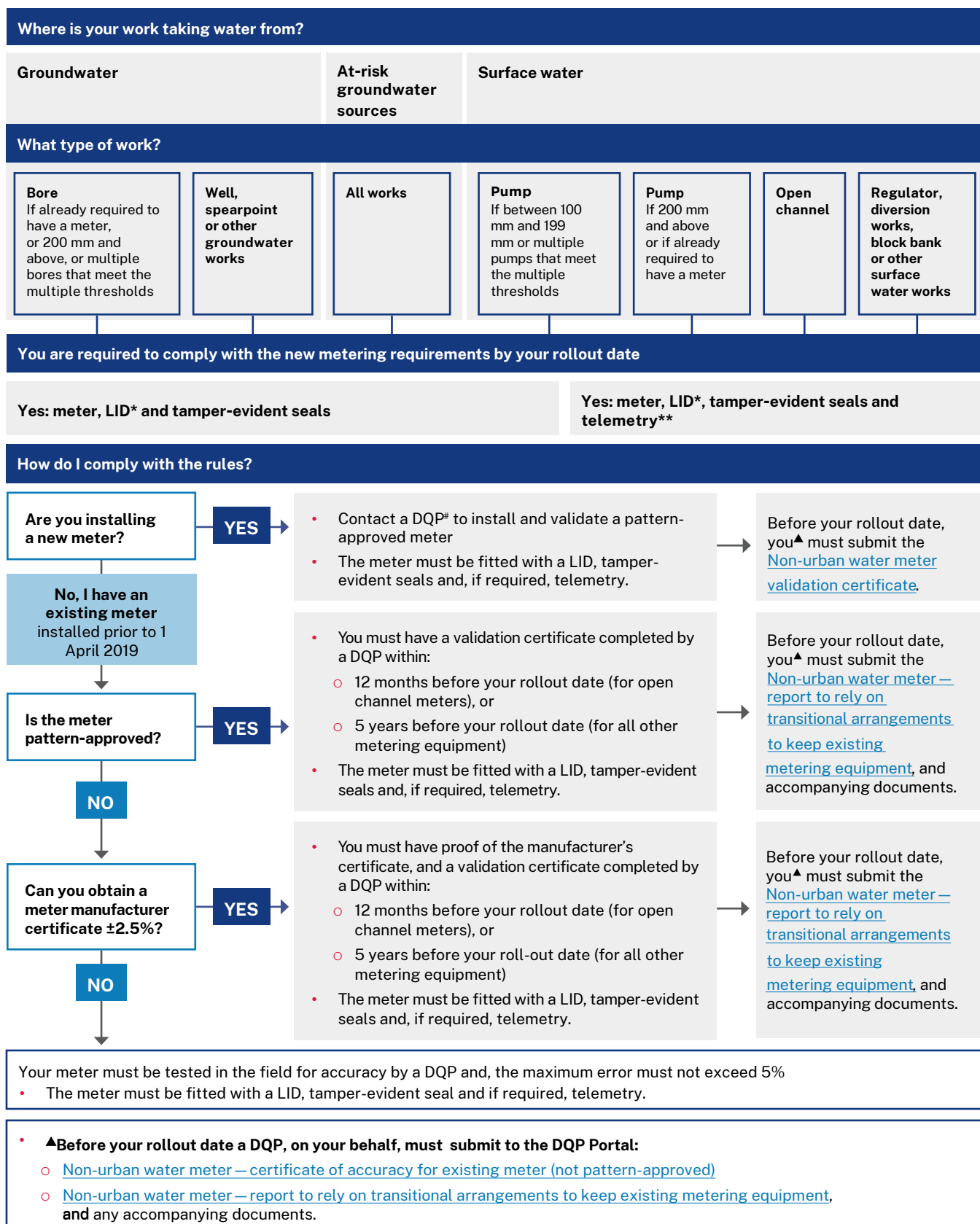


Figure 5

How do the new rules apply to me?

Note: if you cannot meet the requirements for existing meters you will need to install a new meter For more information, go to the [Metering Guidance Tool](#)

#DQP: Duly qualified person

*LID: a local intelligence device such as a telemetry-enabled data logger or other telemetry-capable field solution that is able to connect to a water meter and transmit metering data to government via telemetry and has been installed by an authorised duly qualified person (DQP).

** within the department's telemetry system



More information

- For the online metering guidance tool, key contacts, forms and a list of compatible data logging and telemetry devices, visit the department's [NSW non-urban water metering framework](#) web pages
- [Pattern-approved non-urban water meters](#)
- [To find a duly qualified person in your region – certified meter installer](#)
- [To find a duly qualified person in your region – certified practising hydrographer](#)
- [To understand the roles of agencies](#)

For more information on government-owned meters, please visit www.waternsw.com.au/metering.

Contact us

Department of Planning and Environment:

- By email: water.relations@dpie.nsw.gov.au
- Website: www.dpie.nsw.gov.au/nsw-non-urban-water-metering

Confidential reports about suspicious water activities can be made to NRAR:

- [online](#)
- via email nrar.enquiries@nrar.nsw.gov.au
- or by phoning **1800 633 362** during business hours





dpie.nsw.gov.au